CLAIMS

What is claimed:

1. A computer system comprising:

a frame;

a frame-level connector on the frame;

a chassis insertable into the frame;

a processor on the chassis;

a chassis-level connector, on the chassis, which mates with the frame-level connector when the chassis is inserted into the frame;

a locking mechanism, connected between the frame and the chassis, allowing for movement of the chassis into the frame but preventing movement of the chassis out of the frame; and

a disengager, connected to the locking mechanism, which disengages the locking mechanism to allow for movement of the chassis out of the frame.

2. The computer system of claim 1 wherein the locking mechanism includes a ratchet gear having a plurality of ratchet teeth, and a ratchet pawl, movement of the chassis into the frame causing ratchet movement of the ratchet pawl sequentially into successive gaps between subsequent ones of the ratchet teeth, the ratchet pawl catching on a selected one of the ratchet teeth to prevent movement of the chassis in the opposite direction out of the frame.

3. The computer system of claim 2 wherein the disengager has an actuating portion manually movable, movement of the actuating portion causing disengagement of the ratchet pawl from the selected tooth to allow for movement of the chassis in the opposite direction out of the frame.

4. The computer system of claim 1 where mating of the chassis-level connector with the frame-level connector creates a force between the chassis-level connector and the frame-level connector which tends to disengage the chassis-level connector from the frame-level connector and movement of the chassis in the opposite direction.

5. The computer system of claim 1, further comprising:

a biasing component, connected between the frame and the chassis, which biases the chassis in the opposite direction after insertion of the chassis into the frame, a force created by the biasing component moving the chassis out of the frame after the locking mechanism disengages.

6. The computer system of claim 5 wherein the force increases after the chassis-level connector mates with the frame-level connector and upon further movement of the chassis into the frame.

7. The computer system of claim 6, further comprising:

a mount structure, the frame-level connector being on the mount structure and the mount structure being on the frame, said further movement moving the mount structure relative to the frame.

8. The computer system of claim 7 wherein the biasing component is a spring compressed between the mount structure and the frame.

9. A computer system comprising:

a frame;

a frame-level connector on the frame;

a chassis insertable into the frame;

a processor on the chassis;

a chassis-level connector, on the chassis, which mates with the frame-level connector when the chassis is inserted into the frame;

a ratchet mechanism, connected between the frame and the chassis, including a ratchet gear having a plurality of ratchet teeth, and a ratchet pawl, movement of the chassis into the frame causing ratchet movement of the ratchet pawl sequentially into successive gaps between subsequent ones of the ratchet teeth, the ratchet pawl catching on a selected one of the ratchet teeth to prevent movement of the chassis in an opposite direction out of the frame; and

a disengager, connected to the ratchet pawl, having an actuating portion

movable, movement of the actuating portion causing disengagement of the ratchet pawl from the selected tooth to allow for movement of the chassis out of the frame.

10. The computer system of claim 9, further comprising:

a biasing component, connected between the frame and the chassis, which biases the chassis in the opposite direction after insertion of the chassis into the frame, a force created by the biasing component moving the chassis out of the frame after the locking mechanism disengages.

11. The computer system of claim 10 wherein the force increases after the chassis-level connector mates with the frame-level connector and upon further movement of the chassis into the frame.

12. The computer system of claim 11, further comprising:

a mount structure, the frame-level connector being on the mount structure and the mount structure being on the frame, said further movement moving the mount structure relative to the frame.

13. The computer system of claim 12 wherein the biasing component is a spring compressed between the mount structure and the frame.

14. A computer system, comprising:

a frame;

a mount structure movably on the frame;

a biasing component connected between the frame and the mount structure;

a frame-level connector on the mount structure;

a chassis;

a processor on the chassis;

a chassis-level connector on the chassis, the chassis being insertable in one direction into the frame, movement of the chassis causing engagement of the chassis-level connector with the frame-level connector and further movement of the chassis into the frame causing movement of the mount structure relative to the frame and an increase in a force created by the biasing component;

a locking mechanism, connected between the frame and the chassis, which locks the chassis to the frame after said increase in force of the biasing component; and

a disengager, connected to the locking mechanism, which disengages the locking mechanism so that the chassis is moved in an opposite direction out of the frame by said force of the biasing component.

15. The computer system of claim 14 wherein the locking mechanism includes a ratchet gear having a plurality of ratchet teeth, and a ratchet pawl, movement of the chassis into the frame causing ratchet movement of the ratchet pawl sequentially into successive gaps between subsequent ones of the ratchet teeth, the ratchet pawl

catching on a selected one of the ratchet teeth to prevent movement of the chassis in the opposite direction out of the frame.

16. The computer system of claim 15 wherein the disengager has an actuating portion manually movable, movement of the actuating portion causing disengagement of the ratchet pawl from the selected tooth to allow for movement of the chassis in the opposite direction out of the frame.

17. A method of operating a computer system, comprising:

inserting a chassis, having a processor secured thereto, into a frame until a chassis-level connector on the chassis mates with a frame-level connector on the frame, a locking mechanism allowing for movement of the chassis in one direction into the frame but simultaneously locking the chassis to the frame to prevent movement of the chassis in an opposite direction out of the frame; and

disengaging the locking mechanism to allow for movement of the chassis in the opposite direction out of the frame.

18. The method of claim 17 wherein the locking mechanism includes a ratchet gear having a plurality of ratchet teeth, and a ratchet pawl, movement of the chassis into the frame causing ratchet movement of the ratchet pawl sequentially into successive gaps between subsequent ones of the ratchet teeth, the ratchet pawl catching on a selected one of the ratchet teeth to prevent movement of the chassis in the opposite

direction out of the frame.

19. The method of claim 18 wherein the disengager has an actuating portion manually movable, movement of the actuating portion causing disengagement of the ratchet pawl from the selected tooth to allow for movement of the chassis in the opposite direction out of the frame.

20. The method of claim 17 wherein the frame-level connector is mounted to a mount structure movably mounted to the frame, the chassis being moved so that, after the chassis mates with the frame-level connector, the mount structure is moved relative to the frame.

21. The method of claim 20 wherein movement of the mount structure relative to the frame is against a force created by a biasing component, the force moving the chassis in the opposite direction upon disengagement of the locking m echanism.